Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-17 have been canceled.

Claim 18 (currently amended) A method for forming a low dispersion interleaver assembly, the method comprising forming two interleavers;

a polarization selection element disposed between the first interleaver and the second interleaver;

each interleaver defining a stage having three birefringent elements, configured such that light passes sequentially therethrough, each interleaver being formed by selecting first stage phase delays, first stage orientations, second stage phase delays and second stage orientations from a single row of the table:

First Stage Phase Delays	First Stage Orientations	Second Stage Phase Delays	Second Stage Orientations
$\Gamma, 2\Gamma, 2\Gamma$	$\varphi_1, \varphi_2, \varphi_3$	$\Gamma, 2\Gamma, 2\Gamma$	$90°\pm\varphi_1, 90°\pm\varphi_2, 90°\pm\varphi_3$ (parallel component) $90°\pm\varphi_1, 90°\pm\varphi_2, 90°\pm\varphi_3$ (orthogonal component)
$2\Gamma, 2\Gamma, \Gamma$	$\varphi_3, \varphi_2, \varphi_1$	$2\Gamma, 2\Gamma, \Gamma$	$90°\pm\varphi_3, 90°\pm\varphi_2, 90°\pm\varphi_1$ (parallel component) $90°\pm\varphi_3, 90°\pm\varphi_2, 90°\pm\varphi_1$ (orthogonal component)
$\Gamma, 2\Gamma, 2\Gamma$	$\varphi_1, \varphi_2, \varphi_3$	$2\Gamma, 2\Gamma, \Gamma$	$90°\pm\varphi_3, 90°\pm\varphi_2, 90°\pm\varphi_1$ (parallel component) $\pm\varphi_3, \pm\varphi_2, \pm\varphi_1$ (orthogonal component)
$2\Gamma, 2\Gamma, \Gamma$	$\varphi_3, \varphi_2, \varphi_1$	$\Gamma, 2\Gamma, 2\Gamma$	$90°\pm\varphi_1, 90°\pm\varphi_2, 90°\pm\varphi_3$ (parallel component) $\pm\varphi_1, \pm\varphi_2, \pm\varphi_3$ (orthogonal component)

wherein the orientations of the birefringent elements of each stage correspond to the phase delays of the birefringent elements of the same stage in the order listed in the table; and

wherein a birefringent element of orientation $\pm\varphi_1$ or $90° \pm\varphi_1$ has phase delay Γ, wherein a birefringent element of orientation $\pm\varphi_2$ or $90° \pm\varphi_2$ has phase delay 2Γ, wherein a birefringent element of orientation $\pm\varphi_3$ or $90° \pm\varphi_3$ has phase delay 2Γ, and wherein the birefringent elements are arranged in the order listed in the table.

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Claim 19. (currently amended) A low dispersion interleaver assembly comprising:

a first interleaver;

a second interleaver;

a polarization selection element disposed between the first interleaver and the second interleave;

wherein the first interleaver is configured so as to provide a dispersion vs. wavelength curve wherein each dispersion value thereof is approximately opposite in value to a dispersion value at the same wavelength for the second interleaver, so as to mitigate dispersion in the interleaver assembly;

wherein the first interleaver and the second interleaver each comprise a plurality of birefringent elements;

wherein the phase delays of the birefringent elements of the first interleaver are in an opposite order from input to output with respect to the phase delays of the birefringent elements of the second interleaver;

wherein the first interleaver comprises first, second and third birefringent elements have phase delays selected from the group consisting of:

Γ for the first birefringent element, 2Γ for the second birefringent element, and 2Γ for the third birefringent element; and 2Γ for the first birefringent element, 2Γ for the second birefringent element and Γ for the third birefringent element;

wherein the second interleaver comprised first, second, and third birefringent elements have phase delays selected from the group consisting of:

2Γ for the first birefringent element, 2Γ for the second birefringent element, and Γ for the third birefringent element; and Γ for the first birefringent element, 2Γ for the second birefringent element and 2Γ for the third birefringent element;

wherein the first, second, and third birefringent elements of the first interleaver have angular orientations of φ_1, φ_2, φ_3, respectively;

wherein the first, second, and third birefringent elements of the second interleaver, for a component output from the first interleaver which is parallel to an input thereto, have angular orientations selected from the group consisting of:

$90° - \varphi_3$ for the first birefringent element, $90° - \varphi_2$ for the second birefringent element, and $90° - \varphi_1$ for the third birefringent element; and

$90° + \varphi_3$ for the first birefringent element, $90° + \varphi_2$ for the second birefringent element, and $90° + \varphi_1$ for the third birefringent element;

wherein the first, second, and third birefringent elements of the second interleaver, for a component output from the first interleaver which is orthogonal to an input thereto, have angular orientations selected from the group consisting of:

φ_3 for the first birefringent element, φ_2 for the second birefringent element and φ_1 for third birefringent element; and

$-\varphi_3$ for the first birefringent element, $-\varphi_2$ for the second birefringent element, and $-\varphi_1$ for third birefringent element.

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Claim 20. (currently amended) A method for forming a low dispersion interleaver assembly comprising two interleavers;
a polarization selection element disposed between the first interleaver and the second interleaver;
each interleaver defining a stage having two birefringent elements, configured such that light passes sequentially therethrough, each interleaver being formed by selecting first stage phase delays, first stage orientations, second stage phase delays and second stage orientations from a single row of the table:

First Stage Phase Delays	First Stage Orientations	Second Stage Phase Delays	Second Stage Orientations
~~Γ, 2Γ~~	~~φ_1, φ_2~~	~~Γ, 2Γ~~	~~$90°\pm\varphi_1$, $90°\pm\varphi_2$ (parallel component)~~ ~~$90°\pm\varphi_1$, $90°\pm\varphi_2$ (orthogonal component)~~
2Γ, Γ	φ_2, φ_1	2Γ, Γ	$90°\pm\varphi_2$, $90°\pm\varphi_1$ (parallel component) $90°\pm\varphi_2$, $90°\pm\varphi_1$ (orthogonal component)
Γ, 2Γ	φ_1, φ_2	2Γ, Γ	$90°\pm\varphi_2$, $90°\pm\varphi_1$ (parallel component) $\pm\varphi_2$, $\pm\varphi_1$ (orthogonal component)
2Γ, Γ	φ_2, φ_1	Γ, 2Γ	$90°\pm\varphi_1$, $90°\pm\varphi_2$ (parallel component) $\pm\varphi_1$, $\pm\varphi_2$ (orthogonal component)

wherein the orientations of the elements of each stage correspond to the phase delays of the elements of the same stage in the order listed in the table; and

wherein a birefringent element of orientation $\pm\varphi_1$ or $90° \pm\varphi_1$ has phase delay Γ, wherein a birefringent element of orientation $\pm\varphi_2$ or $90° \pm\varphi_2$ has phase delay 2Γ, and wherein the birefringent elements are arranged in the order listed in the table.

Claim 21. (unchanged) A low dispersion interleaver assembly comprising:
a first interleaver;
a second interleaver;
a polarization selection element disposed intermediate the first interleaver and the second interleaver;

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wherein the first interleaver is configured so as to provide a dispersion vs. wavelength curve wherein each dispersion value thereof is approximately opposite in value to a dispersion value at the same wavelength for the second interleaver, so as to mitigate dispersion in the interleaver assembly;

wherein the first interleaver and the second interleaver each comprise a plurality of birefringent elements;

wherein the phase delays of the birefringent elements of the first interleaver are in the same order from input to output as the phase delays of the birefringent elements of the second interleaver;

wherein the first interleaver comprises first, second and third birefringent elements having phase delays selected from the group consisting of:

Γ for the first birefringent element, 2Γ, for the second birefringent element, and 2Γ for the third birefringent element; and 2Γ for the first birefringent element, 2Γ for the second birefringent element and Γ for the third birefringent element;

wherein the second interleaver comprises first, second, and third birefringent elements having phase delays selected from the group consisting of:

Γ for the first birefringent element, 2Γ for the second birefringent element, and 2Γ for the third birefringent element; and 2Γ for the first birefringent element, 2Γ for the second birefringent element and Γ for the third birefringent element;

wherein the first, second, and third birefringent elements of the first interleaver have angular orientations of φ_1, φ_2, φ_3, respectively;

wherein the first, second, and third birefringent elements of the second interleaver have angular orientations selected from the group consisting of:

$90° - \varphi_1$ for the first birefringent element, $90° - \varphi_2$ for the second birefringent element, and $90° - \varphi_3$ for the third birefringent element; and

$90° + \varphi_1$ for the first birefringent element, $90° + \varphi_2$ for the second birefringent element, and $90° + \varphi_3$ for the third birefringent element.

REMARKS

This is a response to the Office Action mailed September 29, 2003 in relation to the above-identified patent application. In that Office Action, the Examiner rejected claims 18-20 under 35 U.S.C. 102(b) as being anticipated by Sharp, et al.; rejected claim 20 under 35 U.S.C. 102(e) as being anticipated by Wang, et al.; and provisionally rejected Claim 18 under the

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judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 3 of U.S. Patent application serial no. 10/016, 166.

In page 2, line 1 to line 4:

The first citation on the second page of IDS (filed March 3, 2003) should be Electromagnetic Theory, a chapter from book *Optical Electronics, 4th Edition* by Amnon Yariv, Saunders College Publishing, 1991.

In page 2, line 5 to page 4, line 3:

Rejection of Claims 18-20 Under 35 U.S.C. 102(b)

Claims 18-20 have been amended to overcome the rejection under 35 U.S.C. 102(b) as being anticipated by Sharp, et al. More particularly, independent claims 18-20 have been amended to recite "a polarization selection element disposed between the first interleaver and the second interleaver." It is respectfully submitted that Sharp, et al. neither discloses nor make obvious this limitation.

In page 4, line 4 to line 16:

Rejection of Claim 20 Under 35 U.S.C. 102(e)

The Examiner rejected claim 20 under 35 U.S.C. 102(e) as being anticipated by Wang, et al. First tabulated line has been removed from the claim as Wang taught the configuration of a first interleaver of phase delay order (Γ, 2Γ) and a second interleaver of phase delay order (Γ, 2Γ) as shown in Figs. 4A and 4B. The second tabulated line which corresponds to the configuration of a first interleaver of phase delay order (2Γ, Γ) and a second interleaver of phase delay order (2Γ, Γ), the third tabulated line which corresponds to the configuration of a first interleaver of phase delay order (Γ, 2Γ) and a second interleaver of phase delay order (2Γ, Γ), and the fourth tabulated line which corresponds to the configuration of a first interleaver of phase delay order (2Γ, Γ) and a second interleaver of phase delay order (Γ, 2Γ) are different configurations in comparison to the prior art. Thus, the second, the third, and the fourth tabulated lines remain in the claim.

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In page 4, line 17 to page 5, line 13:

The applicant will respectfully take the allowable subject matter.

In page 5, line 14 to page 6, last line:

Double Patenting Rejection

A terminal disclaimer which disclaims the terminal portion of any patent issuing on the subject patent application that extends beyond the termination of any patent issuing upon U.S. application serial no. 10/016,166 and which requires co-ownership of such patents is provided herewith to obviate the double patenting rejection of the subject patent application.

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